EFFECTIVENESS OF HATHA YOGA PRACTICE ON CRAVING FOR SMOKING AMONG PERSONS WITH SMOKING BEHAVIOUR IN SELECTED COMMUNITY SETTING AT KANCHIPURAM DISTRICT

BY

Ms. B.SURYA KALA

A Dissertation submitted to

THE TAMIL NADU Dr.M.G.R.MEDICAL UNIVERSITY,CHENNAI.

IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE

DEGREE OF MASTER OF SCIENCE IN NURSING.

APRIL –2012

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IN PARTIAL FULFILMENT OF THEREQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

APRIL -2012

ACKNOWLEDGEMENT

I express my deep sense of gratitude to **HIS HOLINESS ARUL THIRU AMMA, Founder,** Adhiparasakthi Charitable Medical Educational and Cultural Trust, Melmaruvathur for his graceful blessings, love and unseen guidance behind all the efforts which enabled me to reach up to this level and to complete my study.

I express my heartfelt thanks to **THIRUMATHI. LAKSHMI BANGARU ADIGALAR, Chief Executive Officer,** Adhiparasakthi Educational Institution, Melmaruvathur for given me the opportunity to pursue my study in this prestigious institution.

With great respect and honour, I wish to express my thanks to **SAKTHI THIRUMATHI. B.UMADEVI**, **M.Pharm.,Ph.D., Correspondent** Adhiparasakthi College Of Nursing, Melmaruvathur for valuable caring, spirit and enduring support by giving all facilities throughout the study.

I wish to express my heartfelt gratitude and sincere thanks to our respected Madam, **Dr. N. KOKILAVANI, M.Sc.(N)., Ph.D., Principal And Head of the Department - Research,** Adhiparasakthi College of Nursing, Melmaruvathur. Her immense knowledge, encouragement, nobility, inspiration, motivation, expert suggestions, helping attitude and excellent guidance, without whom this study would not have moulded in the shape.

I profusely thank her for valuable suggestions and guidance from the beginning to end of the study.

I wish to extend my gratitude to **Dr. U. GAUTHAMADAS, M.D., DPM., Ph.D., Professor and Head, Department of Psychiatry,** Melmaruvathur Adhiparasakthi Institute of Medical Science and Research for his valuable and tangible guidance to work successfully.

I wish to extend my gratitude to **Prof. NEELA DEVI, M.sc(N)., Principal** Shenbagha College of Nursing, Chennai for her valuable guidance and content validity.

I wish to express my heartfelt and sincere gratitude to **Prof. B.SHEEBA, M.Sc(N)., M.Phil, Head of the Department – Psychiatric Nursing**, Adhiparasakthi college of Nursing, Melmaruvathur who encouraged with guidance, creative and precious suggestions and correction and advice to carry out the thesis in a successful manner.

I am greatly indebted and I feel immense pleasure to express my gratitude to **Prof. B. VARALAKSHMI, M.Sc. (N)., M.Phil., Vice Principal**, **HOD - Paediatric Nursing** Adhiparasakthi College of Nursing, Melmaruvathur for her constant support, expert advice, affectionate,

patience, valuable guidance which enlightened my way to complete the work systematically

It is my immense pleasure to thank to **Mrs. KALAYANI, M.Sc(N)., Lecturer, Department of Psychiatric Nursing**, Adhiparasakthi College Of Nursing, Melmaruvathur for her valuable and timely guidance and advice for my study.

I wish to express my thanks to **Mr. K. GANESH, M.Sc(N)., Lecturer, Department of Psychiatric Nursing**, Adhiparasakthi College Of Nursing, Melmaruvathur for his valuable suggestions and guidance to complete my study.

I wish to extend my gratitude to **Mr. ASHOK M.Sc., M.Phil., Lecturer in Bio-Statistics**, Adhiparasakthi College of Nursing, Melmaruvathur, for his valuable guidance, support and assistance in statistical analysis and presentation of data.

I wish to extend my heartful sincere thanks to **Mr. A. SURYANARAYANAN, M.A., M.Phil., Lecturer in English,** Adhiparasakthi College of Nursing Melmaruvathur for editing this manuscript and great support in this study.

I wish to express my thanks to **Mr. A. CHANDRAN,** Librarian, Adhiparasakthi College of Nursing, Melmaruvathur for permitting me to utilize the books, dissertations and journals for my study.

I wish to express my grateful thanks to all the **TEACHING FACULTY,** Adhiparasakthi College of Nursing, Melmaruvathur for their help and assistance during the study.

I would like to thank all the **NON TEACHING STAFF**, Adhiparasakthi College of Nursing, Melmaruvathur for their help during the study.

I wish to extend my thanks to **Mr. MAHANDREN**, **M.A(TAMIL),M.Ed., Tamil Literature,** for his help and literature correction in Tamil to complete my study.

I would like to express my immense thanks to **THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY LIBRARY** for granting permission to utilize the reference book and journals for my dissertation.

I wish to extend my thanks to **Mrs. ANJALAI, Keezhmaruvathur Panjayat President,** who given permission to conduct my study in their village and permitted to use the panjayat public hall for conducting yoga sessions to complete my study success.

I am specifically grateful to the participants of my study for their sincere co-operation and interest which showered upon the successful completion of this study, without which my venture would not a be fruitful one.

Finally, I offer my deepest heartwarming thanks to all of them who contributed to this work.

CHAPTER – I

INTRODUCTION

Health is a common phenomenon, health and cheerfulness naturally beget each other. The present concept of health care is on prevention of illness, promotion of health, besides medical care. Health is both a responsibility as well as a right.

According to the American Heart Association, smoking is an unhealthy behaviour that can become an addiction. Smoking is the most important preventable cause of premature death in the United States. Smoking includes all forms of smoking, such as cigar smoking, cigarette smoking, pipe smoking, and exposure to secondhand smoke. All forms of smoking are harmful and there is no form of safe or safer smoking.

Smoking causes or worsens many diseases and damages almost every tissue and organ in the body. Smoking causes the vast majority of cases of lung cancer and exacerbates many other diseases, such as lung diseases, diabetes, cancer and conditions of the cardiovascular system including hypertension, blood clots, high cholesterol, and stroke. Smoking also increases the risk of certain complications of pregnancy and sudden infant death syndrome.

The Centers for Disease Control and Prevention estimates that 46 million people in the United States (18 years of age and older) smoke cigarettes. Smoking is more common in men than women and appears to be prevalent across a variety of different ethnic groups. The highest percentage of smokers is in the 25 to 44-year old age. In many cases, smoking is started at a young age due to peer pressure, tobacco advertising, or a concept that smoking is an acceptable behaviour. Many people who start smoking have a family member or close friend who smokes. According to WHO report states that out of 100 teenagers smoking in India today, 50 would eventually die of tobacco related disease.

According to **International classification of disease (ICD-10)** has recognized the tobacco smoking dependence is a disease. This affects nearly every organ of body. Long-term smoking can result in serious and life-threatening diseases and conditions, such as oral cancer, lung cancer, cardio vascular disease, chronic obstructive pulmonary disease and pneumonia.

A **World Bank study** (1999), states that smoking is already killing one in every 10 adults worldwide. By 2030 perhaps even a little sooner- this portion will be one in six. The epidemic is increasing affective developing countries, where most of the world smokers (84%) live close to half of all men in low income countries smoke

daily and this have been increasing. Many deaths and diseases could be prevented by reducing smoking prevalence.

Smoking tobacco exposes over 4,000 chemicals, many of which are toxic. Toxins found in cigarettes include formaldehyde and cyanide. Another harmful substance in cigarettes and tobacco is nicotine. Nicotine is an addictive drug with serious side effects.

Overall tobacco smoking is estimated to be responsible for more than a quarter of cancer deaths in the UK, that is, around 43,000 deaths in 2007.

Currently 1.3 billion people worldwide smoke or use other tobacco products, and nearly 5 million die as a result 84% of the world, tobacco users live in countries with developing or transitional economies.

Smoking Kills 900,000 people every year in India, and unless corrective action had taken soon that number will increase to one million smoking related deaths annually by 2010 and beyond, according to a study published in the new England journal of medicine and conducted by scientists from India, Canada and U.S.

Report on tobacco control in India (2010) The world health organization, data at country level suggest than the proportions of men who smoke is well above 50% in many low income and middle income countries .In its 82% in Indonesia, 78% in Philippines,75% in

cuba,72% in Colombia 70% in Bangladesh,68% in Rominia,62% in China and 66% in India.

Smoking may soon account for 20% of all male deaths and 5% of all female deaths among Indians between the ages of 30 – 69. About 61% on men who smoke can expect to die between the ages of 30 – 69, compared with only 41% of non-smoking men who are similar in other ways.

In this half of smoking deaths occur among illiterate Indians. There were approximately 120 million smokers in India. According to the study, more than 50% of the tobacco related deaths in India occur among illiterate men and women, and 80% of these people reside in rural India.

Once started, cigarette smoking is difficult to stop. It is a well-known fact that smoking is behaviour that can become addictions due to the presence of nicotine and other chemicals generated from smoking. Like many other addictive substances, these chemicals trigger a series of biochemical reactions and pleasant sensations which can quickly become accustomed. This makes quitting a difficult challenge.

Quitting smoking is a very challenging that requires several attempts for successfully and permanently quit smoking. The best way to quit smoking is through a multifaceted smoking cessation

program that includes perseverance, the support of the people close to the smoker and with better option of alternative systems of medicine.

Smoking is a hard to break because tobacco smoking contains nicotine, which is highly addictive substance. Hatha yoga cultivates determination and willpower in a smoker which are the primary strengths needed to quit smoking.

Yoga can prove efficient in offering a better alternative for dealing with cigarette cravings and stress that often accompany smoking recession. Experts opinion that Yoga can potentially reinforce quitting smoking if done regularly.

Yoga is known to offer several physical and psychological benefits. For people planning to quit smoking, yoga can provide a permanent solution. Not many individuals are able to quit smoking successfully. While some people experience severe withdrawal symptoms, some others start smoking within a week of quitting it. Withdrawal symptoms associated with symptoms include perceived stress and may even increase the person’s risk for relapse to smoking.

NEED FOR THE STUDY

According **WHO** Cigarette reduces life by 3 minutes. Some studies have predicted that one million people in India will die from tobacco smoking during the 2020s.

According to **WHO**, which estimates that smoking related death worldwide will surpass 9 million annually by 2020 with 7 million of those deaths occurring in developing nations.

Smoking statistics (2008) reported that about a third of the male adult global population smokes. Smoking related-diseases kill one in 10 adults globally, or cause four million deaths. By 2030, if current trends continue, smoking will kill one in six people. Every eight seconds, someone dies from tobacco use.

Among Americans, smoking rates shrunk by nearly half in three decades (from the mid-1960s to mid-1990s), falling to 23% of adults by 1997. In the developing world, tobacco consumption is rising by 3.4% per year. About 12 times more British people have died from smoking than from World War II.

Among WHO Regions, the Western Pacific Region - which covers East Asia and the Pacific - has the highest smoking rate, with nearly two-thirds of men smoking.

Among young teens (aged 13 to 15), about one in five smokes worldwide. Between 80,000 and 100,000 children worldwide start

smoking every day - roughly half of whom live in Asia. Evidence shows that around 50% of those who start smoking in adolescent years go on to smoke for 15 to 20 years. Peer-reviewed studies show teenagers are heavily influenced by tobacco advertising. About a quarter of youth alive in the Western Pacific Region will die from smoking.

International Agency for Research on Cancer (IARC) states that tobacco smoking can also cause cancers of the following sites: upper aero-digestive tract (oral cavity, nasal cavity, nasal sinuses, pharynx, larynx and esophagus), pancreas, stomach, liver, bladder, kidney, cervix, bowel, ovary (mucinous) and myeloid leukemia.

The world health organization predicts that India will have the fastest rate of rise in death attributable to tobacco in the first two decades of the twenty first century many of these deaths will occur in the productive years of adult life, as a consequence of an addiction in youth.

Yoga increases the circulation, muscle tone and general form can only flourish properly without the interjection of carcinogenic smoke. This feeling will triumph in all self-aware yoga practitioners and they should choose to follow their body's needs rather than those of their addicted mind. It increases self-awareness will lead an

individual to notice the increase in vitality and self-esteem with the elimination of cigarettes.

Hatha yoga is a systematic discipline which uses the body as a tool to quit the mind. Through slow, deliberate movement, one comes to experience and understand the particular patterns and tendencies of the body and at the same time to understand the particular patterning of the contents of one's consciousness, one's mental and emotional landscape. It is a meditative discipline where the body is the object of attention so that the awareness is present-focused.

There are a number of potential ways that yoga may reduce cravings. One such way is by instilling mindfulness, the quality of being present and aware of each moment. Research suggests yoga promotes mindfulness, which has in turn been found to reduce overall cigarette consumption and attenuate cravings.

Another possible mediator of the effects of yoga on craving is a reduction of negative affect and anxiety. Negative affect is associated with both failures to quit smoking and smoking relapse. Another possible mechanism is that yoga acts as a distraction, and that any distracting activity will lead to reduced craving.

The investigator finds that smoking causes enormous morbidity and mortality because of the high risk of smoking-related diseases. As cigarettes prematurely kill 50% of long-term users, any additional

measure that may reduce death or illness should be given serious consideration. So the investigator had interest on Hatha yoga practice to reduce craving for smoking where by helps the subjects for complete cessation for smoking.

STATEMENT OF THE PROBLEM:

A STUDY TO ASSESS THE EFFECTIVENESS OF HATHA YOGA PRACTICE ON CRAVING FOR SMOKING AMONG PERSONS WITH SMOKING BEHAVIOUR IN SELECTED COMMUNITY SETTING AT KANCHIPURAM DISTRICT.

OBJECTIVES:

- to assess the severity of smoking behaviour and craving for smoking among persons with smoking behaviour
- to evaluate the effectiveness of the Hatha yoga practice on craving for smoking among persons with smoking behaviour.
- to find out the co-relationship between severity of smoking behaviour and craving for smoking.
- to analyze the association between craving for smoking and severity of smoking behaviour with demographic variables.

OPERATIONAL DEFINITION

Effectiveness

It refers to significant improvement in reduction of craving for smoking among persons with smoking behaviour as evaluated by pre and post test scores of Tiffany Drobe's Brief Questionnaire on smoking urges.

Hatha yoga practice

It refers to demonstration by the investigator on a combination of three kinds of practices for 4 weeks. It includes,

- Yoga asana
- Controlled breathing
- Meditation

Yoga asana

It includes practice of yoga postures such as ustrasana, bhujangasana, sarvangasana, dhanurasana and savasana for 25 minutes.

Controlled breathing

It includes practice of right to left nostril breathing and left to right nostril breathing for 10 minutes.

Meditation

Which includes practice of mindful meditation with the help of OM chanting and instruction by using compact disk for 10 minutes.

And finally Hatha yoga practice CD rams and booklets had been distributed for further practice.

Craving for smoking

It refers to urge for smoking as determined by behavioural measures such as Tiffany and Drobe's questionnaire on smoking urges

Persons with smoking behaviour

It refers to male persons accustomed with smoking habit which is determined by using self structured questionnaire on smoking behaviour.

HYPOTHESIS

- There will be a significant reduction in craving for smoking among persons with smoking behaviour by practicing Hatha yoga.
- There will be no association between craving for smoking and smoking behaviour with demographic variables.

LIMITATIONS

- The study is limited to sample size of 30.
- The study is limited only to male with smoking behaviour
- The languages known to the population is Tamil or English.
- The time duration of the study is limited to 6 weeks.

- The setting is limited to smokers who are residing at keezhmaruvathur village.
- The findings of the study cannot be generalized.

CONCEPTUAL FRAME WORK

Conceptual frame work is a theoretical approach to the study of problem that are scientifically based and emphasis the selection, arrangement and classification of its concepts.

The conceptual frame work for the present study is based on the general system theory with input, process, output and feedback. This was first introduced by LUDWING VON BERTALANFFY in 1968.

According to this theory, a system is a group of elements that interact with one another in order to achieve the goal. An individual is a system because he receives input from the environment. The input when processed provides an output. All living systems are open. There is a continuous of matter, energy and information. The system is cyclical in nature and continuous to as long as the four parts – input, process, output and feedback- keeping interaction with each other. If there is any change in any one part, there will be alteration in all other parts. Feedback within the system or from the environment provides information which helps the system to determine its effectiveness.

INPUT

It consists information material or energy that enters the system.

The input includes the assessment of smokers regarding demographic variables such as age, education, marital status, occupation, family type, monthly income, type of smoking, age of initiation, duration of smoking, history of abstinence, duration of abstinence, reason for smoking, smoke free policy in work place, any other smokers in the family, presence of health and psycho social problems related to smoking. Assessment includes craving status by using tiffany Drobe's Questionnaire on Smoking Urges and severity of smoking behaviour by using self structured questionnaire on smoking behaviour.

PROCESS

After the input is absorbed by the system it is processed in a way useful to the system.

In this study it refers to demonstration of Hatha yoga such as,

Yoga asana includes practice of yoga postures such as ustrasana, bhujangasana, sarvangasana, dhanurasana and savasana for 25 minutes. Controlled breathing includes practice of right to left nostril breathing and left to right nostril breathing for 10 minutes. Meditation

Which includes practice of mindful meditation with the help of om chanting and instruction by using CD for 10 minutes. Practiced daily for 4 weeks. By using self demonstration and getting re-demonstration from the subjects. Daily supervision was done by investigator. Finally CD-rams and booklets are distributed for further practices.

OUTPUT

It refers to energy matter or information disposed by the system as a result of its process.

In the present study it refers to the reduction in the status of craving for smoking which includes low, moderate and high. This is achieved through the comparison of craving status before and after Hatha yoga practice. Pre and post test score was evaluated by Tiffany and Drobe's questionnaire on smoking urges. The reductions in the craving status indicate that the Hatha yoga practice was effective in managing smoking behaviour.

FEEDBACK

It is the process that enables the system to regulate itself and provides information about the system's output and its feedback as input.

In this study samples who have moderate and higher craving for smoking was again demonstrated and re-demonstrated the same

practice. Hatha yoga booklets and CD-rams are given for further practice.

ENVIRONMENT

The individual's environment is a fined constraint that may influence the regular practice of Hatha yoga.

In this study the persons with smoking behavior are practiced Hatha yoga in keezhmaruvathur panjayat public hall where the hatha yoga practice sessions had been conducted.

CHAPTER II

REVIEW OF LITERATURE

Review of literature is an essential step in the development of a research project. It involves the systematic identification, location, scrutiny and summary of written materials that contain information on research problems. The investigator reviewed the related literature to broaden the understanding and gain insight in to the selected problem under study.

A good research does not exist in the vacuum. Research findings should be an extension of previous knowledge and the theory as well as a guide for future research activities. A thorough study of literature provides a foundation to base new knowledge.

A review of literature provides the concept to continue or written for the contemplated research, an understanding the status of research in the problem area and clues research approach, method instrumentation and analysis. The literature review organized following the headings.

I. Review of literature related to craving for smoking

II. Review of literature related to effects of hatha yoga

III. Review of literature related to effectiveness of Hatha yoga on craving of smoking.

I . Review of literature related to craving for smoking

Ham D.C.et.al.,(2011) described difference in smoking behaviours associated with occupation, work place rules against smoking, and work place smoking cessation programs. It suggests that blue collar workers were at persistent smoking than white collar worker for ever smoking and concluded that social or cultural effects related to occupation are important determinants of smoking.

Lauralea Colamussi. et.al.,(2011) determined the Individuals with multiple smokers among first-degree relatives are significantly more likely to be persistent smokers themselves. Family history of positive smokers would exhibit stronger stress-and cue-induced craving reactions compared to family history of negative Smokers.

Rastam.et.al.,(2011) examined the relative effectiveness of cigarettes and waterpipe in reducing tobacco abstinence symptoms in dual cigarette/WP smokers. 61 dual cigarette/WP smokers participated in the study. Results showed the ability of WP to suppress abstinence effects comparably to cigarettes, and its potential to thwart cigarette cessation.

Harriet.et.al.,(2011) investigated the effect of acute psychological stress on cigarette craving, the subjective effect of smoking, and smoking behaviour in daily smokers and concluded

that Stress significantly increased craving but it did not increase smoking.

Michael.A.et.al.,(2009) investigated the effect of alcohol consumption on craving in heavy smokers and tobacco chippers, among 138 samples. Results indicated that alcohol consumption produced an increase in urge to smoke rating before smoking cue exposure.

Lochbuehler.et.al.,(2009) examined the influence of smoking cues in movies on craving among smokers. A total of 65 young adults who smoked daily basis participated in the study. Findings revealed that pictures of smoking character had strong effect on craving.

Doran.et.al.,(2009) examined the impulsive smokers are more responsive to cigarette cues than other smokers. Impulsivity predicted an increased craving response to both cues but particularly the smoking cue. Data suggested that increased reactivity to environmental smoking cues contribute to the link between impulsivity and smoking.

Hamidovic.A.et.al.,(2009) examined the sleep deprivation increases the cigarette smoking among 14 healthy smokers findings suggested that sleep loss may increases the likelihood of smoking

during abstinence not through inhibitory or attentional mechanism but because of the potential of nicotine to reduce subjective sleepiness.

Carl L. Hart.et.al.,(2008) reveled that Cigarette craving is an important contributor to cigarette smoking, and clinical approaches that focus on regulation of craving are effective in reducing rates of relapse. It concludes that cigarette-smoking participants, cigarette craving was significantly reduced when focusing on the long-term consequences associated with smoking.

Sayette.et.al.,(2005) examined the possibility that exposure to olfactory stimuli can reduce self reported urge to smoke. Results indicated that sniffing either a pleasant or unpleasant odor reduced reported urge to smoke relative to the control odor and provide support for the consideration of odor stimuli as an craving reduction.

Bittoun. R.et.al.,(2005) determined that the smokers can learn to influence their urge to smoke. 40 heavy smokers participated in the experiment. Findings revealed that the predictive value of a cue, in regard to the occurrence of nicotine intake strongly determines its ability to generate craving. It concluded that participants learned through a process of conditioning, and in this way influenced their urge to smoke.

Erblich.et.al.,(2004) investigated that cigarette smokers carrying specific variants in dopamine-related genes, in 108 healthy adult smokers. Findings provided strong support for the possibility that dopamine involvement in stress-induced craving well established and suggest a potential genetic risk factor for persistent smoking behaviour.

Brody. M.D. et.al.,(2002) examined the Brain Metabolic Changes During Cigarette Craving 20 heavy smokers and 20 nonsmoking control subjects underwent 2 fluorine 18–fluorodeoxyglucose positron emission tomography scans for 10 days. Significant positive correlations were found between intensity of craving and metabolism in the orbitofrontal cortex, dorsolateral prefrontal cortex.

II. Review of literature related to effects of Hatha yoga

Deary.L.et.al., (2011) described Hatha yoga increases self awareness and well being. Intentionality is creating motivation then action. The results supported and expanded Zahuroek's theory of intentionality, the matrix of healing, and provide new insight in to intentionality in healing.

Woodyard. et.al., (2011) discussed regarding the therapeutic effect of yoga and to provide a comprehensive review of the benefits of regular practice. Result showed that the yogic practice enhance

the muscular strength and improve the respiratory function, promote the recovery from the addiction, reduce the stress, anxiety, craving, improves the sleep and enhance well being and quality of life.

Lasater and Judith.et.al.,(2010) explained psychological benefits of Hatha yoga, which includes regular yoga practice creates mental clarity and calmness, increased self awareness, relaxes the mind centers attention and sharpens concentration, self-acceptances and self-actualization an invigorating effect on both mental and physical energy and improved mood, decreases craving and hostility

Ray.et.al.,(2009) observed any beneficial effect of yogic practices during training period on the young trainees. 54 trainees of 20-25 years age group were divided randomly in two groups i.e. yoga and control group. Yoga group was administered yogic practices for the first 2 months of the course while control group did not perform yogic exercises during this period. There was improvement in various psychological parameters like reduction in anxiety and depression and a better mental function after yogic practices.

Hadi N.et.al., (2007) designed with that purpose using the SF-36 questionnaire in 107 volunteers who attended yoga classes for 4weeks. There was significant improvement in scores for all health

items. It is concluded that yoga can improve physical and mental health, and promotes well-being.

Kulkarni .D.D.et.al., (2004) examined the relaxation potential of yogic exercises in establishing psycho-physical health and reversing the psycho-immunology of emotions under stress based on breath and body awareness. Results showed that two major pathways of information processing involving cortical and hypothalamo-pituitary-adrenal axis interactions with a deep reach molecular action on cellular, neuro-humoral and immune system in reversing stress mediated diseases.

Sinha. B.et.al.,(2004) determined the mindful attention can reduce self-reported and neural markers of cue-induced craving among 47 meditation-naive treatment-seeking smokers. Research suggested that mindfulness-based interventions may be beneficial for smoking cessation and the treatment of other addictive disorders.

Malathy.A.et.al.,(2001) examined 48 healthy volunteers who participated in the practice of yoga over a period of 3 months were assessed on Subjective Well Being Inventory (SUBI) before and after the course in order to evaluate the effect of practice of yoga on subjective feelings of well-being and quality of life. It reiterated the beneficial effects of regular practice of yoga on subjective well being.

Walker.J.L.et.al.,(2000) determined the metabolic and heart rate responses of hatha yoga, among 26 samples were performed a 30-minute hatha yoga routinely Results suggests that hatha yoga is an acceptable form of physical activity for enhancing muscular fitness and flexibility, finally suggest that Hatha yoga have cardiovascular benefit.

Robert.et.al.,(2000) stated about tips on duration of yoga practice. Suggests that daily practice should be between 15-45 minutes long and done 1-6 times per week depending on schedule, goals and ability. Practicing more frequently with shorter practice times will yield greater results than practicing less frequently with longer practicing time.

III.Literature Review related to Effectiveness of Hatha Yoga on Craving for Smoking

Tosca Brauna.et.al., (2011) investigated a single 30-minutes of Hatha yoga for 4 weeks reduced the craving to smoke among 72 daily smokers. It elucidates potential mediators, or mechanisms, such an increase mind fullness and spirituality, which predicted yoga is an effective smoking cessation aid.

Drobes D.J.et.al.,(2011) designed to compare and contrast the effects of 2 different forms of physical activity on general and cue elicited craving to smoke. 76 daily smokers assigned to engage in

Hatha yoga and cardiovascular exercise for 4 weeks. It concluded that group who practiced Hatha yoga reported general decrease in craving in response to smoking cues than cardiovascular exercise group.

McIver.S. et.al., (2011) explained the Innovative treatments are needed that address barriers to successful smoking cessation. Concluded that yoga may be an efficacious complementary therapy for smoking cessation.

Stephani.M.A.et.al., (2010) examined the mind-body intervention referred to as “surfing the urge”. A group of 123 undergraduate smokers applied this practice daily routinely for 1 week. It suggests, those who engaged in this brief mindfulness-based therapy (yoga and mindful meditation) smoked fewer cigarettes by apparently changing their response to urges to smoke.

Mark.Griifths.et.al., (2010) reports that Qigong meditation was better accepted and more effective than “Stress Management and Relaxation Training (SMART)” in a group of 248 men and women who undergoing “residential addiction treatment”. It concluded that practicing daily meditation noted a greater reduction in cravings and withdrawal symptoms than those using the SMART approach.

Neha Prasad et.al., (2010) determined that main cause of relapse in smoking attempting to quit is inability to resist urges to smoke. Two techniques, body scan and isometric exercise with yoga, have been shown to reduce urge intensity and nicotine withdrawal symptoms temporarily abstinent smokers. 40 daily smokers were recruited and results concluded that 4 weeks practice of yoga with isometric exercise were effective on reducing urges and increasing abstinence.

Bock.B.C.et.al.,(2010) designed to examine the rates of cessation among men, for 8-weeks practice of Yoga plus Cognitive Behavioural Therapy (CBT) smoking cessation intervention versus a Wellness program plus the same CBT smoking cessation intervention. Results showed that yoga can offer alternative to traditional exercise for reducing negative symptoms that often accompany smoking cessation and predict relapse to smoking among recent quitters.

Williams.D.M. et.al., (2010) examined the effects of 8-week yoga program on perceived stress, affect, and the process of quitting smoking among 36 healthy, adult smokers. Results concluded that regulation of breathing and focused attention and yoga postures, which enhances stress reduction and improves mood, well being and improves cessation outcome.

CHAPTER III

RESEARCH METHODOLOGY

This chapter deals with the methodology adopted for the study and includes the description of research design, setting, population, and sample size, sampling technique, criteria for Sample selection, data collection and instrument.

RESEARCH DESIGN

The investigator had adopted Quasi experimental one group pre test and post test design was used to evaluate the effectiveness of Hatha yoga practice on reducing craving for smoking among persons with smoking behaviour.

SETTING

The research was conducted in keezhmaruvathur village. The total population of this village is 4000. There are approximately 480 smokers in that village. Group yoga practice session was conducted in panjayat public hall in Keezhmaruvathur village, kanchipuram district.

POPULATION

The population of the study comprises of all male with smoking behaviour and who were residing at keezhmaruvathur village, kanchipuram district.

SAMPLE SIZE

The sample size was 30 male smokers who are having the habit of smoking and who have the willingness to stop smoking.

SAMPLING TECHNIQUE

Simple random sampling technique is used to select the samples for this study.

CRITERIA FOR SAMPLE SELECTION

Inclusion Criteria

- Only male with smoking behaviour were included for the study
- Those who have willingness to stop their smoking habit
- Can understand and speak Tamil or English

Exclusion Criteria

- Person with cognitive impairment
- Person who were suffering from any other co-morbid mental illness
- Persons who were practicing any other alternative for cessation of smoking.

INSTRUMENT FOR DATA COLLECTION

Instrument used for data collection was an interview schedule. This was developed based on the objective of the study and review of literature. The instrument consists of following section.

Section I: Proforma for demographic variables and selected demographic variables.

Section II: Proforma for assessing severity of smoking behaviour and status of craving for smoking.

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with description of the tools, scoring interpretation pilot study, reliability and validity, informed consent, data collection procedure, data analysis and presentation of findings

TOOL DESCRIPTION AND SCORING

The semi structured interview schedule has two section for the collection of data collection. Details of the tool used in this study are given below

- Proforma for demographic variables.
- Proforma for assessing severity of smoking behaviour and craving for smoking.

Section I: PROFORMA FOR DEMOGRAPHIC VARIABLES

Part- A

This section consists of information about demographic variables such as age, education, occupation, marital status, family type, monthly income.

Part - B

This section consist of selected demographic variables on type of smoking, age of initiation of smoking, duration of smoking, history of abstinence, duration of abstinence, smoke free policy at work

place, reason for smoking, smokers in the family, any other addictive habits, physical problems and psycho social problems associated with smoking.

SECTION: II

Part A

This section deals with structured multiple choice questionnaire for assessment of severity of smoking behaviour. It consists of 9 multiple choice questions related to smoking behaviour among male smokers. The total possible maximum score will be 34. Possible minimum score will be 9.

Part B

Tiffany & Drobes (1991) Questionnaire of Smoking Urges is a 10-item of 7 point Likert scale questionnaire. It consist evaluation of self reported craving for cigarettes. Used to assess the status of craving. The total possible maximum score will be 70. Possible minimum score will be 10.

Based on the assessment the status of craving for smoking and severity of smoking behaviour are classified as low, moderate and high.

After collecting the data, analyses was done to find out the mean and standard deviation and percentage of score on

effectiveness of Hatha yoga practice on craving for smoking among persons with smoking behaviour.

REPORT OF THE PILOT STUDY

The pilot study was conducted to assess the reliability, practicability, content validity, and feasibility of the tool. The study was conducted for 1 week period and was conducted in Sothupakkam village. 5 subjects with smoking behaviour who met inclusion criteria were selected by using simple random sampling technique. The status of craving for smoking and severity of smoking behaviour was assessed with Tiffany Drobe's questionnaire on smoking urges and self structured questionnaire on smoking behaviour. Hatha yoga practice sessions were conducted at morning and evening sessions. Along with hatha yoga practicing sessions booklets and CD- rams had been given for further individual practice. The result of the study showed that there was significant reduction on craving for smoking after Hatha yoga practice.

VALIDITY

Validity refers to determination of whether or not a device or method measure what it purpose to measure. Content validity was obtained from the experts in the field of Psychiatry and Psychiatric Nursing.

RELIABILITY

Reliability of an instrument is the degree of consistency that the instruments or procedure demonstrates whatever it is measuring. Tiffany and Drobe's questionnaire on smoking urges for assessing craving for smoking was adopted for the study. The reliability was checked by split half method. The reliability was 0.71 by K.R formula (Kuder,Richardson).

INFORMED CONSENT

The dissertation committee prior to the main study approved the research proposal. Informed consent was obtained from the each study participants individually before starting the data collection with proper explanation of Hatha yoga practice. Assurance was given to the participants regarding the confidentiality of the study.

DATA COLLECTION PROCEDURE

The investigator had obtained permission to conduct the study from the institution and from the village panjayat president. The study was conducted in keezhmaruvathur village kanchipuram district. The total period for data collection was 6 weeks and the data was collected from the persons with smoking behaviour. Good rapport was established to gain the co-operation for data collection. After getting the demographic data from the subjects with smoking habit, craving for smoking assessment was done by using Tiffany and

Drobe's Questionnaire on Smoking Urges and Hatha yoga practice was demonstrated. The yoga practice was conducted as three session at panjayat public hall in keezthmaruvathr village. According to the convenience of subjects, hatha yoga practice was conducted in three sessions. Preliminary instruction was given to subjects before starting first session to all subjects. Demonstration of yoga postures(ustranasa, bhujangasana, dhanurasana, sarvangasana and savasana), controlled breathing(right to left nostril breathing and left to right nostril breathing) and meditation(mindful meditation) was done. Daily practice of Hatha yoga was done. Daily supervision by the researcher was also done.

At the end of the final session hatha yoga practice booklets and CD-rams had been given for further practice. At the end of the study period the craving for smoking and severity of smoking behaviour was evaluated with the help of the same questionnaire.

SCORE INTERPRETATION

Section I

PART- A

The severity of smoking behaviour was measured by multiple choice questions with 4 options in each item. For the best answer score of one was given for wrong answer four was given. Maximum score of this structured interview schedule was 34 and the minimum

score of was 9. Based on the scoring the percentage of the severity of smoking behaviour was calculated by using the following formula

Score interpretation was done by

$$\text{Score interpretation} = \frac{\text{Obtained score}}{\text{Total Score}} \times 100$$

Maximum score = 34

Minimum score = 9

Total score = 34

Table4.1.1 SCORE INTERPRETATION

SEVERITY OF SMOKING BEHAVIOUR	PERCENTAGE
Low severity of smoking behaviour	< 50
Moderate severity of smoking behaviour	51% to 75
High severity of smoking behaviour	>75

PART- B

The status of craving for smoking was measured by 7 point Likert scale is a standard questionnaire for assessing urge of smoking. For the best answer score of one was given for wrong answer seven was given. Maximum score is 70 and the minimum score is 7.

Score was scored in order as

1- Strongly disagree

2 - Slightly disagree

3 - Disagree

4 - Uncertain

5 - Agree

6 - Slightly agree

7 - Strongly agree

Based on the scoring the percentage of the status of craving for smoking was calculated by using the following formula

Score interpretation was done by

$$\text{Score interpretation} = \frac{\text{Obtained score}}{\text{Total Score}} \times 100$$

Maximum score = 70

Minimum score = 7

Total score = 70

Table 4.1.2 SCORE INTERPRETATION

CRAVING FOR SMOKING	PERCENTAGE
Lower craving for smoking	< 50
Moderate craving smoking	51% to 75
Higher craving smoking	>75

PLAN FOR DATA ANALYSIS

Descriptive statistical analysis and inferential statistical analysis methods was used to find out the percentage, mean, standard deviation, Paired t test ,co-efficient of co-relation, and chi square test were adopted to interpret the effectiveness of Hatha yoga practice on craving for smoking among persons with smoking behaviour.

Table 4.2 STATISTICAL METHOD

s.no	DATA ANALYSIS	METHODS	REMARKS
1.	Descriptive analysis	Mean, Standard deviation, percentage of score	• To describe the demographic variables
2.	Inferential statistics	Paired “t” test Correlation of co-efficient Chi-square test	• To evaluate the effectiveness of Hatha yoga practice on craving for smoking among persons with smoking behaviour. • Analyzing correlation between severity of smoking behaviour and craving for smoking. • Analyzing association between demographic variables and post test score of craving for smoking and severity of smoking behaviour.

The analysis of data was organized and presented based on objectives in the following sections

Section – A Frequency and percentage distribution of the demographic variables of persons with smoking behaviour.

Section – B Comparison of frequency and percentage distribution of pre test and post test score of severity of smoking behaviour and status of craving for smoking among persons with smoking behaviour.

Section – C Comparison of mean and standard deviation of pre test and post test score of smoking behaviour and craving for smoking among persons with smoking behaviour.

Section – D Improved score of Hatha yoga practice on reducing craving for smoking among persons with smoking behaviour.

Section – E Correlation between severity of smoking behaviour and craving for smoking among persons with smoking behaviour.

Section – F Analyzing the association between demographic variables and post test score of craving for smoking and severity of smoking behaviour among persons with smoking behaviour.

SECTION - A

TABLE.4.3- FREQUENCY AND PERCENTAGE DISTIBUTION OF DEMOGRAPHIC VARIABLES OF PERSONS WITH SMOKING BEHAVIOUR

N=30

S.N	DEMOGRAPHIC VARIABLES	FREQUENCY	(%)
1.	**Age in years**		
	a. < 20 years	05	16.67
	b. 21-30 years	10	33.33
	c. 31-40 years	08	26.67
	d. > 50 years	07	23.33
2.	**Educational status**		
	a. Illiterate	05	16.67
	b. Primary school education	06	20.00
	c. Higher secondary education	09	30.00
	d. Collegiate education	10	33.33
3.	**Marital status**		
	a. Unmarried	12	40.00
	b. Married	12	40.00
	c. widower	04	13.33
	d. divorced	02	06.67
4.	**Occupational status**		
	a. Student	03	10.00
	b. Self employed	09	30.00
	c. Unemployed	03	10.00
	d. Working in private sector	11	36.67
	e. Working in government sector	04	13.33

5.	**Type of family** a. Nuclear family b. Joint family	 20 10	 66.67 33.33
6.	**Monthly income**		
	a. < Rs 3000 per month	04	13.33
	b. Rs 3001-5000 per month	06	20.00
	c. Rs 5001-10,000 per month	13	43.33
	d. > Rs 10,000 per month	07	23.33
7.	**Type of smoking**		
	a. Filter	06	20.00
	b. Plain	10	33.33
	c. Beedi	05	16.67
	d. Pipe	03	10.00
	e. Any two in above mentioned	06	20.00
8.	**Age of initiation**		
	a. < 20 years	06	20.00
	b. 21-30 years	14	46.67
	c. 31- 40 years	06	20.00
	d. >40 years	04	13.33
9.	**Duration of smoking**		
	a. < one year	05	16.67
	b. 1-3 years	07	23.33
	c. 3-5 years	07	23.33
	d. > five years	11	35.48
10.	**History of abstinence**		
	a. Many times	08	25.81
	b. Frequently	07	22.58
	c. Sometimes	07	22.58
	d. Not yet	08	25.81

11.	**Duration of abstinence**		
	a. < 12 hours	11	36.67
	b. 12-24 hours	12	40.00
	c. 1-3 days	07	23.33
	d. > 3 days	00	0
12.	**Availability of smoking free policy in work place**		
	a. Yes	14	46.67
	b. No	16	53.33
13.	**Reason for smoking**		
	a. Enjoyment	05	16.67
	b. To relieve from tension	10	33.33
	c. Social recognition	06	20.00
	d. Peer acceptance	09	30.00
14.	**Any other addictive habits other than smoking**		
	a. Yes	12	40.00
	b. No	18	60.00
15.	**Any other smokes in your family**		
	a. Yes	15	50.00
	b. No	15	50.00
16.	**Presence of any associated health problems**		
	a. Yes	10	33.33
	b. No	20	66.67
17.	**Presence of any psycho social problems associated with smoking**		
	a. Yes	22	73.33
	b. No	08	26.67

Table – 4.3 depicts the frequency and percentage of distribution of the demographic variables which Includes, age, educational status, marital status, occupational status, type of family, monthly income, type of smoke, age of initiation, duration of smoking, history of abstinence, duration of abstinence, smoke free policy in work place, reason for smoking, other addictive habits, associated health problems and psycho-social problems.

Among 30 samples of persons with smoking behaviour, regarding the age of the smokers maximum 10 (32.26%) were belongs to 21-30 years of age minimum five (16.13%) were belonged to < 20 years of age,

With respect to the educational status maximum 10(32.26%) had up to collegiate education, minimum five (16.13%) illiterate.

Regarding marital status maximum 12 (38.71%) were unmarried, minimum two (6.45%) widower.

The occupational status reveals, maximum of 11 (35.48%) were working in private sectors and minimum of three (9.68%) employed.

The family system depicts, maximum of 20(64.52%) were belonged to nuclear family, minimum of 10(32.26%) belonged to joint family.

Regarding the monthly income of family, maximum 13(41.94%) belonged to Rs 5001-10,000 per month, minimum of four (12.90%) belonged to < Rs 3000 per month.

The type of smoking maximum of 10(32.26%) were using plain, minimum of three (9.68%) using pipe.

With respect to age of initiation of smoking maximum 14(45.16%) were started in between 21-30 years of age, minimum four (12.90%) started after 40 years of age.

Regarding duration of smoking maximum 11 (35.48%) were smoking > five years, minimum five (16.13%) smoking < 1 year.

About history of abstinence maximum eight (25.81%) were had many times and not yet, minimum seven (22.58%) had abstinence at frequently and some times.

Regarding the duration of abstinence maximum 12 (38.71%) 12-24 hours, minimum zero (0%) > 3 days.

In the availability of smoke free policy in work place maximum 16 (51.61%) said No, minimum 14 (45.16%) said Yes,

About the reason for smoking maximum 10 (32.26%) for relieve from tension, minimum five (16.13%) for enjoyment,

Regarding the other addictive habits maximum 18 (58.06%) said No, minimum 12 (38.71%) said Yes.

Regarding other smokers in the family among 30 samples 15 (48.39%) said Yes, 15 (48.39%) said No.

With the respect of health problems associated with smoking maximum 20 (64.52%) said No, minimum 10 (32.26%) said Yes.

The psycho-social problem related to smoking maximum 22 (70.97%) said Yes, minimum eight (25.81%) said No.

SECTION .B

TABLE-4.4.1.- COMPARISON OF FREQUENCY AND PERCENTAGE DISTRIBUTION OF PRE TEST AND POST TEST SCORE OF CRAVING FOR SMOKING

N=30

Craving for smoking	Low		Moderate		High	
	N	%	N	%	N	%
Pre test	–	–	09	30	21	70
Post test	28	93.3	02	6.7	–	–

Table- 4.4.1 depicts the comparison of frequency and percentage distribution of pre test and post test score of craving for smoking. The pre test shows that among 30 samples nine (30%) had moderate status of craving and 21(70%) had high status of craving for smoking. The post test reveals that among the 30 samples, 28 (93.3%) had low status of craving for smoking, two (6.7%) had moderate status of craving and none of them was in high status of craving for smoking on post test.

TABLE-4.4.2.- COMPARISON OF FREQUENCY AND PERCENTAGE DISTRIBUTION OF PRE TEST AND POST TEST SCORE OF SEVERITY OF SMOKING BEHAVIOUR

N=30

Smoking behaviour	**Low**		**Moderate**		**High**	
	N	%	N	%	N	%
Pre test	–	–	08	26.7	22	73.3
Post test	22	60	12	40	–	–

Table- 4.4.2 depicts the comparison of frequency and percentage distribution of pre test and post test score of severity of smoking behaviour. The pre test shows that among 30 samples eight (26.7%) had moderate and 22(73.3%) had high severity of smoking behaviour. The post test reveals that among the 30 samples, 22 (60%) had low severity of smoking behaviour, 12 (40%) had moderate severity of smoking behaviour and none of them was in high severity of smoking behaviour on post test.

SECTION – C

TABLE-4.5-COMPARISON OF MEAN AND STANDARD DEVIATION OF PRE TEST AND POST TEST SCORE OF SMOKING BEHAVIOUR AND CRAVING FOR SMOKING AMONG PERSONS WITH SMOKING BEHAVIOUR

N=30

VARIABLES	PRE TEST		POST TEST	
	Mean	**SD**	**Mean**	**SD**
Craving for smoking	2.70	0.46	32.73	2.03
Smoking behaviour	28.33	0.99	17.83	1.94

Table 4.5 depicts comparison of mean and standard deviation of pre test and post test score of smoking behaviour and craving for smoking among persons with smoking behaviour in pre test over all mean of the craving for smoking was 2.70 with standard deviation of 0.46. In the post test the overall mean of craving for smoking was 32.73 with standard deviation of 2.03. Regarding severity of smoking behaviour mean was 28.33 with standard deviation of 0.99. In post test mean was 17.83 with standard deviation of 1.94. It reveals that significant changes between pre and post test value of craving for smoking and severity of smoking behaviour.

SECTION - D

TABLE – 4.6- IMPROVEMENT SCORE OF HATHA YOGA PRACTICE ON CRAVING FOR SMOKING AMONG PERSONS WITH SMOKING BEHAVIOUR

N=30

VARIABLES	IMPROVEMENT		CONFIDENCE INTERVAL		PARIED "t" TEST
	MEAN	SD	UPPER	LOWER	
Craving for smoking	30.03	1.97	30.77	29.26	27.21*

*significant P< 0.05

Table 4.6 exhibit the improvement score of Hatha yoga practice on craving for smoking among persons with smoking behaviour. Among 30 samples with smoking behaviour the improved mean was 30.03 with the standard deviation of 1.97. The paired "t" test value was 27.21. This implies that the Hatha yoga practice was effective on reducing the craving for smoking among persons with smoking behaviour.

SECTION - E

TABLE- 4.7- CORRELATION BETWEEN SMOKING BEHAVIOUR AND CRAVING FOR SMOKING AFTER HATHA YOGA PRACTICE

N = 30

VARIABLES		POST TEST SCORE OF CRAVING FOR SMOKING				TOTAL		CORRELATION
		Low		Moderate		N	%	
Post Test Score Of Smoking Behaviour	Low	17	56.7	1	3.3	18	60	0.187
	Moderate	11	36.7	1	3.3	12	40	

Table- 4.7 reveals the co-relation between smoking behaviour and craving for smoking after the Hatha yoga practice. The co-relation between smoking behaviour and craving for smoking was 0.187. It reveals that there was a positive correlation between smoking behaviour and craving for smoking. It implies that smoking behaviour reduces, craving for smoking also reduced.

SECTION-E

TABLE:4.8.1- ASSOCIATION BETWEEN DEMOGRAPHIC VARIABLES AND CRAVING FOR SMOKING AMONG PERSONS WITH SMOKING BEHAVIOUR AFTER HATHA YOGA PRACTICE

N=30

S.No	Demographic variables	Post test craving score						χ^2
		Low		Moderate		High		
		N	%	N	%	N	%	
1.	**Age in years**							
	a. < 20	04	13	01	03	0	0	
	b. 21-30	10	33	0	0	0	0	**3.367**
	c. 31-40	08	27	0	0	0	0	**NS**
	d. > 40	06	20	01	03	0	0	
2.	**Educational status**							
	a. Illiterate	04	13	1	03	0	0	
	b. Primary school education	06	20	0	0	0	0	**2.857**
	c. Higher secondary education	08	27	1	03	0	0	**NS**
	d. Collegiate education	10	33	0	0	0	0	
3.	**Marital status**							
	a. Unmarried	11	37	1	03	0	0	
	b. Married	11	37	1	03	0	0	
	c. Widower	04	13	0	0	0	0	**0.536**
	d. Divorced	02	07	0	0	0	0	**NS**
4.	**Occupational status**							
	a. Students	02	07	01	03	0	0	
	b. Self employed	08	27	01	03	0	0	

	c. Unemployed	03	10	0	0	0	0	
	d. Working in private sector	11	37	0	0	0	0	**5.00**
	e. Working in government sector	04	13	0	0	0	0	**NS**
5.	**Type of family**							
	a. Nuclear family	18	60	02	07	0	0	**1.071**
	b. Joint family	10	33	0	0	0	0	**NS**
6.	**Monthly income**							
	a. < Rs 3000 per month	04	13	0	0	0	0	
	b. Rs 3001-5000 per month	05	17	01	03	0	0	
	c. Rs 5001-10,000 per month	12	40	01	03	0	0	**1.772**
	d. > Rs 10,000 per month	07	23	0	0	0	0	**NS**
7.	**Type of smoking**							
	a. Filter	06	20	0	0	0	0	
	b. Plain	09	30	01	03	0	0	
	c. Beedi	05	17	0	0	0	0	**4.824**
	d. Pipe	02	7	01	03	0	0	**NS**
	e. Any two in above mentioned	06	20	0	0	0	0	
8.	**Age of initiation**							
	a. < 20 years	06	20	0	0	0	0	
	b. 21-30 years	13	43	01	03	0	0	**3.023**
	c. 31- 40 years	06	20	0	0	0	0	**NS**
	d. >40 years	03	10	01	03	0	0	
9.	**Duration of smoking**							
	a. < one year	05	17	0	0	0	0	
	b. 1-3 year	06	20	01	03	0	0	**1.614**
	c. 3-5 years	7	23	0	0	0	0	**NS**
	d. > 5 years	10	33	01	03	0	0	

10.	**History of abstinence**							
	a. Many times	08	27	0	0	0	0	
	b. Frequently	07	23	0	0	0	0	**7.04***
	c. Sometimes	05	17	02	07	0	0	
	d. Not yet	08	27	0	0	0	0	
11.	**Duration of abstinence**							
	a. < 12 hours	10	33	01	03	0	0	**0.654**
	b. 12-24 hours	11	37	01	03	0	0	**NS**
	c. 1-3 days	07	23	0	0	0	0	
	d. > 3 days	0	0	0	0	0	0	
12.	**Availability of smoking free policy in work place**							
	a. Yes	13	43	01	03	0	0	**0.111**
	b. No	15	50	01	03	0	0	**NS**
13.	**Reason for smoking**							
	a. Enjoyment	05	17	0	0	0	0	
	b. To relieve from tension	10	33	0	0	0	0	**5.00**
	c. Social recognition	06	20	0	0	0	0	**NS**
	d. Peer acceptance	07	23	02	07	0	0	
14.	**Any other addictive habits other than smoking**							
	a. Yes	12	40	0	0	0	0	**1.424**
	b. No	16	53	02	07	0	0	**NS**
15.	**Presence of any associated health problems**							
	a. Yes	09	30	01	03	0	0	**0.268**
	b. No	19	63	01	0	0	0	**NS**
16.	**Presence of any psycho social problems associated with smoking**							
	a. Yes	20	67	02	07	0	0	**0.779**
	b. No	08	27	0	0	0	0	**NS**

***Significant P < 0.05 level.**

Table 4.8.1 shows the association between craving for smoking and demographic variables. That there was a significant association between history of abstinence and craving for smoking. Other variables such as age, education, occupation, marital status, family type, monthly income, type of smoking, age of initiation of smoking, duration of smoking, duration of abstinence, smoke free policy at work place, reason for smoking, smokers in the family, any other addictive habits, physical problems and psycho social problems are not associated with craving for smoking. Thus the demographic variables are independent on craving for smoking.

TABLE:4.8.2- ASSOCIATION BETWEEN DEMOGRAPHIC VARIABLES AND SEVERITY OF SMOKING BEHVIOUR AMONG PERSONS WITH SMOKING BEHAVIOUR.

N=30

S.no	Demographic variables	Post test score of smoking behaviour						χ 2
		Low		Moderate		High		
		N	%	N	%	N	%	
1.	**Age in year**							
	a. < 20	3	10	2	7	0	0	
	b. 21-30	5	17	5	17	0	0	**1.19**
	c. 31-40	6	20	2	7	0	0	**NS**
	d. > 40	4	13	3	10	0	0	
2.	**Educational status**							
	a. Illiterate	3	10	2	7	0	0	
	b. Primary school education	4	13	2	7	0	0	**0.694**
	c. Higher secondary education	6	20	3	10	0	0	**NS**
	d. Collegiate education	5	17	5	17	0	0	
3.	**Marital status**							
	a. Unmarried	10	33	2	7	0	0	
	b. Married	04	13	8	27	0	0	
	c. Widower	02	07	2	7	0	0	**7.78***
	d. Divorced	02	07	0	0	0	0	
4.	**Occupational status**							
	a. Students	1	3	2	7	0	0	
	b. Self employed	7	23	2	7	0	0	**2.433**
	c. Unemployed	2	07	1	3	0	0	**NS**

	d. Working in private sector	6	20	5	17	0	0	
	e. Working in government sector	2	07	2	7	0	0	
5.	**Monthly income**							
	a. < Rs 3000 per month	3	10	1	3	0	0	
	b. Rs 3001-5000 per month	3	10	3	10	0	0	**1.944**
	c. Rs 5001-10,000 per month	9	30	4	13	0	0	**NS**
	d. > Rs 10,000 per month	3	10	4	13	0	0	
6.	**Type of smoking**							
	a. Filter	3	10	3	10	0	0	
	b. Plain	5	17	5	17	0	0	
	c. Beedi	3	10	2	7	0	0	**2.083**
	d. Pipe	2	7	1	3	0	0	**NS**
	e. Any two in above mentioned	5	17	1	3	0	0	
7.	**Age of initiation**							
	a. < 20 years	4	13	2	7	0	0	
	b. 21-30 years	7	23	7	23	0	0	**2.222**
	c. 31- 40 years	5	17	1	3	0	0	**NS**
	d. >40 years	2	7	2	7	0	0	
8.	**Duration of smoking**							
	a. < one year	2	7	3	10	0	0	
	b. 1-3 years	5	17	2	7	0	0	**1.732**
	c. 3-5 years	5	17	2	7	0	0	**NS**
	d. > 5 years	6	20	5	17	0	0	
9.	**History of abstinence**							
	a. Many times	4	13	4	13	0	0	
	b. Frequently	4	13	3	10	0	0	**0.759**
	c. Sometimes	5	17	2	7	0	0	**NS**

	d. Not yet	5	17	3	10	0	0	
10.	**Duration of abstinence**							
	a. < 12 hours	8	27	3	10	0	0	
	b. 12-24 hours	8	27	4	13	0	0	**3.846**
	c. 1-3 days	2	7	5	17	0	0	**NS**
	d. > 3 days	0	0	0	0	0	0	
11.	**Availability of smoking free policy in work place**							
	c. Yes	6	20	8	27	0	0	**3.214**
	d. No	12	40	4	13	0	0	**NS**
12.	**Reason for smoking**							
	a. Enjoyment	3	10	2	7	0	0	
	b. To relieve from tension	8	27	2	7	0	0	**4.444**
	c. Social recognition	4	13	2	7	0	0	**NS**
	d. Peer acceptance	3	10	6	20	0	0	
13.	**Any other addictive habits other than smoking**							
	a. Yes	9	30	3	10	0	0	**1.875**
	b. No	9	30	9	30	0	0	**NS**
14.	**Any other smokers in the family**							
	a. Yes	7	23	8	27	0	0	**2.222**
	b. No	11	37	4	13	0	0	**NS**
15.	**Presence of any associated health problems**							
	a. Yes	7	23	3	10	0	0	**0.625**
	b. No	11	37	9	30	0	0	**NS**
17.	**Presence of any psycho social problems associated with smoking**							
	a. Yes	13	43	9	30	0	0	**0.028**
	b. No	05	17	03	10	0	0	**NS**

***Significant P < 0.05 level.**

Table 4.8.2 shows the association between severity of smoking behaviour and demographic variables. That there was a significant association between marital status and severity of smoking behaviour. Other variables such as age, education, occupation, family type, monthly income, type of smoking, age of initiation of smoking, duration of smoking, history of abstinence, duration of abstinence, smoke free policy at work place, reason for smoking, smokers in the family, any other addictive habits, physical problems and psycho social problems are not associated with severity of smoking behaviour. Thus the demographic variables are independent on severity of smoking behaviour.

CHAPTER-V

RESULTS AND DISCUSSION

The aim of present study was to evaluate the effectiveness of hatha yoga practice on craving for smoking among persons with smoking behaviour. A total number of 30 samples had been selected for this study. One group pre test and post test design had been adopted for this study. On the first day assessment was done by using “Tiffany and drobe’s brief questionnaire on smoking urges and self structured questionnaire on assessing the severity of smoking behaviour. Based on the assessment the yoga practice was planned and implemented. After four weeks practice of Hatha yoga post test was done by using the same tool.

The study findings have been discussed in the terms of the theoretical basis and hypothesis. The results of the study have been discussed according to the objectives of the study.

The first objective was to assess the status of craving of smoking and severity of smoking behaviour among persons with smoking behaviour.

Table 4.4 Reveals that among 30 samples with smoking behaviour nine (30%) were in moderate status of craving for smoking, 21(70%) in high status of craving for smoking on the assessment day. Among

the same 30 samples reassessed on the evaluation day and found that 28(93.3%) in low status of craving, two (6.7%) in moderate status of craving for smoking.

Regarding severity of smoking behaviour the pre test shows that among 30 samples eight(26.7%) had moderate and 22(73.3%) had high severity of smoking behaviour. The post test reveals that among the 30 samples, 22 (60%) had low severity of smoking behaviour, 12 (40%) had moderate smoking behaviour on post test.

This revealed that in pre test the craving for smoking and severity of smoking behaviour was high. In post test this showed Hatha yoga practice has changed the craving for smoking and severity of smoking behaviour from high severity to low severity.

The second objective was to evaluate the effectiveness of Hatha yoga practice on craving for smoking among persons with smoking behaviour.

Table - 4.5 exhibit the improvement score of Hatha yoga practice on craving for smoking among persons with smoking behaviour. Among 30 subjects with smoking behaviour the improved mean was 30.03 with the standard deviation of 1.97. The paired “t” test value was 27.21. This implies that the Hatha yoga practice was

effective on reducing craving for smoking among persons with smoking behaviour.

The samples were treated on the basis of Hatha yoga practice. The craving status of the persons smoking behaviour was observed and assessed. The effectiveness was assessed with the help of Tiffany and Drobe's Brief Questionnaire on Smoking Urges.

The care was provided with modified Ludwing Von Bertalanffy's general system theory. The findings reveals significant reduction in the status of craving for smoking after practicing hatha yoga.

The third objective was to find out the correlation between severity of smoking behaviour and craving for smoking among persons with smoking behaviour.

Table- 4.7 depicit the correlation between smoking behaviour and craving for smoking after the Hatha yoga practice. The correlation between smoking behaviour and craving for smoking was 0.187. It reveals that there was a positive correlation between smoking behaviour and craving for smoking. It implies that smoking behaviour reduces, craving for smoking also reduced.

The fourth objective was to analyze the association between craving for smoking and severity of smoking behaviour.

Table 4.8.1 shows the association between craving for smoking and demographic variables. That there was a significant association between history of abstinence and craving for smoking. Other variables such as age, education, occupational status, marital status, type of family, monthly income, type of smoking, age of initiation of smoking, duration of smoking, duration of abstinence, smoke free policy at work place, reason for smoking, smokers in the family, any other addictive habits, physical problems and psycho social problems are not associated with craving for smoking. Thus the demographic variables are independent on craving for smoking.

Table 4.8.2 reveals that there is no association between the demographic variables like age, education, occupation, family type, monthly income type of smoking, age of initiation of smoking, duration of smoking, duration of abstinence, smoke free policy at work place, reason for smoking, smokers in the family, other addictive habits, physical problems and psycho social problems associated with smoking and post test score of craving for smoking and severity of smoking behaviour among persons with smoking behaviour.

CHAPER VI

SUMMARY AND CONCLUSION

The aim of the present study was to assess the effectiveness of Hatha yoga practice on craving for smoking among persons with smoking behaviour. A one group pre-post test design was adopted for this study. A total number of 30 samples who met the inclusion criteria were selected for this study. The tool used for this study was given below.

Section A: Proforma for demographic variables and selected demographic variables

Section B: Tiffany & Drobes (1991) Questionnaire of Smoking Urges to assess level of smoke craving and self structured questionnaire for assessing the severity of smoking.

On the first day, craving for smoking was assessed by using Tiffany Drobes's questionnaire of smoking urges and severity of smoking behaviour was assessed with the help of self structured questionnaire on smoking behaviour. On the evaluation day, assessment was done by using same tool. In pre test out of 30 samples, eight exhibited moderate severity of smoking behaviour, 22 exhibited high severity of smoking behaviour. Regarding craving

for smoking nine were exhibited moderate craving for smoking, 21 were exhibited high craving for smoking.

After practicing hatha yoga regularly by the subjects for four weeks. In post test it was found that 18 smokers exhibited low severity of smoking behaviour and 12 exhibited moderate severity of smoking behaviour. Regarding craving for smoking 28 exhibited low status of craving for smoking and 2 were exhibited moderate craving for smoking. It shows that the Hatha yoga practice was effective on reducing the craving for smoking among persons with smoking behaviour.

FINDING OF THE STUDY

- The pre test mean score for severity of smoking behaviour was 28.33 with the standard deviation of 0.9942. In the post test, mean score was 17.833 with the standard deviation of 1.949.
- The pre test mean score for craving for smoking was 2.70 with the standard deviation of 0.466. In the post test, mean score was 32.733 with the standard deviation of 2.033.
- Among 30 persons with smoking behaviour the improved mean was 30.03 with the standard deviation of 1.97. The paired “t” test value was 27.21. It implies the Hatha yoga practice was effective on reducing the craving for smoking.

- Hence the Hatha yoga practice was effectiveness on reducing craving of smoking among persons with smoking behaviour.
- There is a positive correlation between craving for smoking and severity of smoking behaviour. It reveals that the hatha yoga practice was effective.
- There is no association between craving for smoking and severity of smoking behaviour with demographic variables.

NURSING IMPLICATIONS

- The health care professionals need to explore the prevalence of smoking and its effects and need to take necessary intervention to protect them from the complications.
- The study implies that the nurse helps the smokers to get relief from their addictive behaviour by reducing their craving on smoke by using effective Hatha yoga practice.
- Psychological aspects of care is more important and it implies the need to practice and follow various yoga practice which will reduce craving as well as withdrawal symptoms associated with smoking cessation in both clinical and community settings.

NURSING EDUCATION

- With increasing use of complementary therapy by the general population nursing faculty are challenged to educate their student about these complementary therapies.
- Use of holistic curriculum model facilitates the inclusion of interventions that promote complementary health and healing. It is therefore, important to assure that sufficient time is allocated with in nursing course for alternative therapy like yoga.
- It is vital to have knowledge about complementary therapies for professional nursing practice, to provide the information about these therapies, to be informed about complementary therapies and to incorporate some of these therapies into one's own self care.
- A study can be undertaken to evaluate the knowledge after a planned teaching programme.
- Various workshops and conferences can be put forth on the concept of psychiatric nursing regarding the care of person with addicted behaviour.
- Nursing educators plan to instruct the students that the students should be provide adequate opportunity to develop

skills in handling the clients with addicted behaviour among various clinical conditions.

NURSING SERVICE

- Nurses working in psychiatric set up should be equipped with knowledge and skills to demonstrate yoga to smokers and to other kinds of Addictive disorder.
- Patients should be given adequate information regarding the benefits of effectiveness of Hatha yoga practice on reducing craving of smoking.
- In-service education programme regarding alternative modalities of treatment should be organized.
- Rewards can be given to the outstanding nurses who practice the alternative modalities of treatment.
- Mass health education programme can be organized to improve the knowledge regarding alternative modalities of treatment.
- Nurses working in psychiatric unit should have wide knowledge about care of patient with addictive behaviour.
- All the health care providers such as the Auxiliary nurses, Village health nurses, Community health workers should be given In-service education related to Alternative systems of medicine like yoga therapy.

NURSING ADMINISTRATION

- People at the administration position can make necessary policies to implement the concept of psycho-biology in psychiatric nursing.
- The nursing administrators should give attention on the proper selection, placement and effective utilization of the nurse in all areas within the available resources and should plan for budget.
- Nurse administrator can impose the routine practice of yoga practice in psychiatric wards.
- Nursing administration should make arrangement for providing yoga programme to the person who has smoking behaviour during the stay in the hospital.
- The nursing administrator should manage the client with addictive behaviour and the delivery of specific nursing services within the health care agency.
- The nursing leaders should work collaboratively and coordinate with other health team members to conduct yoga programme to reduce these kind of addictive behaviour.

NURSING RESEARCH

- Psychiatric nursing today is involved every issues due to changes in health care delivery system, advancement in emerge of psychobiology, and development of new discipline in medicine, Nursing need to be developed to study in specific areas of problem.
- Nurse Researcher should to perform scientific work and take part in application and evaluation effectiveness of yoga practice on craving of smoking.
- The finding of the study should be implemented in both hospital and community settings.
- The study provides awareness for further studies among the students in this area.
- This study directs the nursing personnel to broaden their knowledge and skill to elicit problems and to conduct more research to raise their power to implement prompt care activities on smoking behaviour.
- This study will imply the nurse education to conduct and motivate learner to select relevant study with all dissemination like physical, emotional, mental, social and spiritual changes encountered by person with smoking behaviour utilization of findings and deviation of knowledge which help to detect ongoing assessment care and technology that made in health care delivery

system. By conducting much research, disseminating knowledge will be given a vision o for growing in nursing discipline.

RECOMMENDATIONS

Based on the research findings the following recommendations are made

- The similar study can done with larger samples
- The study can be done on the knowledge and skills of the nurses regarding yoga therapy
- In-service education on effectiveness of yoga therapy can be given to improve the quality of care.
- Similar study can be done by using quasi experimental with control group.
- A descriptive study can be done to assess the knowledge, attitude and practice of yoga therapy.
- The replication of present study can be conducted with more effective and with constant intervention.
- Comparative study may be conducted find out the between urban and rural population to find out the similarities and difference between knowledge, attitude and practice on smoking behaviour.

- Experimental studies may be conducted to compare the effectiveness of hatha yoga practice with other alternative interventions.
- Qualitative study can be conducted to find out the effective interventions for smoking cessation.
- A study can be undertaken to evaluate the knowledge after a planned teaching programme.

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APPENDIX - I

DEMOGRAPHIC PROFORMA

Code no----------

-

INSTRUCTION:

This section requires your personal information. Each item has few options, please tick (✓) in the corresponding box which is more appropriate to you.

1. **Age in years**

a) < 20 years ☐

b) 21-30 years ☐

c) 31-40 years ☐

d) >40 years ☐

2. **Educational status**

a) Illiterate ☐

b) Primary education ☐

c) Secondary school education ☐

d) Collegiate education ☐

3. Marital status

a) Unmarried ☐

b) Married ☐

c) Widower ☐

d) Divorced ☐

4. Occupational status

a) Students

b) Self employed ☐

c) un employed ☐

d) Working in private sectors ☐

e) Working in government sectors ☐

5. Type of family

a) Nuclear family ☐

b) Joint family ☐

6. Monthly income

a) Below Rs 3000 per month ☐

b) Below Rs 3001 - 5000 per month ☐

c) Below Rs 3001- 10,000 per month ☐

d) Above Rs 10,000 per month ☐

SELECTED DEMOGRAPHIC VARIABLES ON SMOKING BEHAVIOR:

7. Type of cigarette do you smoke

a) Filter ☐

b) Plain ☐

c) Beedi ☐

d) Pipe ☐

e) Any two in above mentioned ☐

8. Age of initiation of smoking

a) < 20 years ☐

b) 20 – 30 years ☐

c) 31 – 40 years ☐

d) > 40 years ☐

9. Duration of smoking

a) < one year ☐

b) 1-3 years ☐

c) 3-5 years ☐

d) < five year ☐

10. History of abstinence

a) Many times ☐

b) Frequently ☐

c) Sometimes ☐

d) Not yet ☐

11. Duration of abstinence

a) < 12 hours ☐

b) 12-24 hours ☐

c) 1- 3 days ☐

d) < 3 days ☐

12. Availability of smoking free policy in work place

a) Yes ☐

b) No ☐

13. Reason for smoking

a) Enjoyment ☐

b) To relieve from tension ☐

c) Social recognition ☐

d) Peer acceptance ☐

14. Any other addictive habit other than smoking

a) Yes ☐

b) No ☐

15. Any other smokers in the family

a) Yes ☐

b) No ☐

16. Presence of any associated health problems

a) Yes ☐

b) No ☐

17. Presence of any psycho social problems related to smoking

a) Yes ☐

b) No ☐

APPENDIX – II

II. QUESTIONNAIRE ON ASSESSMENT OF SMOKING BEHAVIOR:

1. **No of smoke per day**

   a) 1-3 ☐

   b) 3-6 ☐

   c) 6-9 ☐

   d) > 9 ☐

2. **Duration of Last smoke**

   a) < 12 hours ☐

   b) 12-24 hours ☐

   c) 1-3 days ☐

   d) > 3 days ☐

3. **Who will restrict your smoking habits**

   a) self control ☐

   b) Health worker ☐

   c) Friends and Family members ☐

   d) None ☐

4. When you are in a place where smoking is prohibited, how difficulty you feel

a) Not at all difficulty ☐
b) Somewhat difficult ☐
c) Difficult ☐
d) Very difficult ☐

5. Have you ever felt guilty about your smoking behavior

a) Always ☐
b) Most frequently ☐
c) some time ☐
d) Not yet ☐

6. How much percentage of your monthly income is spend for smoking

a) < 10 % ☐
b) 11 – 15% ☐
c) 16 -20 % ☐
d) > 20 % ☐

7. How soon after you wake up to you have your first cigarette

a) After one hour ☐

b) 31-60 minutes ☐

c) 6-30 minutes ☐

d) Within 5 minute ☐

8. Which smoke would hate most to give up

a) First one in the morning ☐

b) All others ☐

9. How do you feel when you quit smoking by performing associated activities?

a) No difficult ☐

b) Somewhat Difficult ☐

c) Difficult ☐

d) Very difficult ☐

APPENDIX - III

STEPHEN T. TIFFANY STANDARD QUESTIONNAIRE ON SMOKING URGES

Instructions:

The Following statement which indicates how much you agree and disagree each item. We are interested in how you are thinking or feeling right now as you are filling out the questionnaire. Please complete each item by tick (✓).

S.no	Questionnaire	1	2	3	4	5	6	7
1	I have a desire for a cigarette right now							
2	Nothing would be better than smoking a cigarette right now							
3	If it were possible, I probably would smoke now							
4	I could control things better right now if I could smoke							
5	All I want right now is a cigarette							
6	I have an urge for a cigarette							
7	A cigarette would taste good now							
8	I would almost anything for a cigarette							
9	Smoking would make me less depressed							
10	I am going to smoke as soon as possible							